[0034] Throughout the drawings and the detailed description, the same reference numerals refer to the same elements. The drawings may not be to scale, and the relative size, proportions, and depiction of elements in the drawings may be exaggerated for clarity, illustration, and convenience.

DETAILED DESCRIPTION

[0035] The following detailed description is provided to assist the reader in gaining a comprehensive understanding of the methods, apparatuses, and/or systems described herein. However, various changes, modifications, and equivalents of the methods, apparatuses, and/or systems described herein will be apparent to one of ordinary skill in the art. The sequences of operations described herein are merely examples, and are not limited to those set forth herein, but may be changed as will be apparent to one of ordinary skill in the art, with the exception of operations necessarily occurring in a certain order. Also, descriptions of functions and constructions that are well known to one of ordinary skill in the art may be omitted for increased clarity and conciseness.

[0036] The features described herein may be embodied in different forms, and are not to be construed as being limited to the examples described herein. Rather, the examples described herein have been provided so that this disclosure will be thorough and complete, and will convey the full scope of the disclosure to one of ordinary skill in the art.

[0037] Throughout the specification, it will be understood that when an element, such as a layer, region or wafer (substrate), is referred to as being "on," "connected to," or "coupled to" another element, it can be directly "on," "connected to," or "coupled to" the other element or other elements intervening therebetween may be present. In contrast, when an element is referred to as being "directly on," "directly connected to," or "directly coupled to" another element, there may be no elements or layers intervening therebetween. Like numerals refer to like elements throughout. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

[0038] It will be apparent that though the terms first, second, third, etc. may be used herein to describe various members, components, regions, layers and/or sections, these members, components, regions, layers and/or sections should not be limited by these terms. These terms are only used to distinguish one member, component, region, layer or section from another region, layer or section. Thus, a first member, component, region, layer or section discussed below could be termed a second member, component, region, layer or section without departing from the teachings of the embodiments.

[0039] Words describing relative spatial relationships, such as "below", "beneath", "under", "lower", "bottom", "above", "over", "upper", "top", "left", and "right", may be used to conveniently describe spatial relationships of one device or elements with other devices or elements. Such words are to be interpreted as encompassing a device oriented as illustrated in the drawings, and in other orientations in use or operation. For example, an example in which a device includes a second layer disposed above a first layer based on the orientation of the device illustrated in the drawings also encompasses the device when the device is flipped upside down in use or operation.

[0040] The terminology used herein is for describing particular embodiments only and is not intended to be limiting of the present disclosure. As used herein, the singular forms "a," "an," and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises," and/or "comprising" when used in this specification, specify the presence of stated features, integers, steps, operations, members, elements, and/or groups thereof, but do not preclude the presence or addition of one or more other features, integers, steps, operations, members, elements, and/or groups thereof.

[0041] FIG. **1** is a side view and a plan view illustrating a conductive plate according to one or more embodiments. Referring to FIG. **1**, the conductive plate **100** according to the present embodiment includes an insulating layer **110** and a conductive layer **120**. Further, the conductive plate **100** may further include an adhesive layer.

[0042] The insulating layer **110** is formed on at least one surface of the conductive layer **120** to serve as a protective layer protecting the conductive layer **120**. The insulating layer **110** may be formed by anodizing one surface of the conductive layer **120**. Alternatively, the insulating layer **110** may be formed of an insulating film such as polyethylene terephtalate (PET), polycarbonate (PC), polyethersulfone (PES), polyimide (PI), polymethlymethacrylate (PMMA), or cyclo-olefin polymers (COP). However, the material of the insulating layer **110** is not limited thereto.

[0043] The conductive layer **120** includes a plurality of conductive tiles, or protrusions, **121-1** to **121**-N formed on the insulating layer **110**. For example, the conductive layer **120** may be formed of the plurality of conductive tiles **121-1** to **121**-N arranged on at least one surface of insulating layer **110**. The plurality of conductive tiles **121-1** to **121**-N serve as a heat radiating member, or heat dissipating member, that effectively radiates or dissipates heat.

[0044] In addition, the plurality of conductive tiles **121-1** to **121**-N have a space formed between each tile. For example, the plurality of conductive tiles **121-1** to **121**-N are spaced apart from each other while having a gap, or groove, **122**. Accordingly, a formation of a closed loop of an eddy current generated when a wireless transfer electromagnetic wave passes through the plurality of conductive tiles may be prevented. As a result, current loss by the eddy current may be significantly reduced.

[0045] In addition, the plurality of conductive tiles **121-1** to **121**-N may be formed of a metal material having excellent permeability of electromagnetic waves and excellent thermal diffusion characteristics. For example, the metal material may include aluminum or graphite. However, the metal material of the plurality of conductive tiles is not limited thereto. A size of each of the plurality of conductive tiles **121-1** to **121**-N may be adjusted to reduce the eddy current and to improve heat radiation performance. In addition, a thickness of the anodized insulating layer **110** may be determined depending on a depth of the gap **122** between the plurality of conductive tiles **121-1** to **121**-N.

[0046] The adhesive layer may be formed on a surface of the insulating layer **110** adjacent to the conductive layer **120** or a surface of the conductive layer **120** adjacent to the insulating layer **110**. The adhesive layer may also be formed on another surface of the conductive layer **120** opposite the insulating layer **110** and on another surface of the insulating layer **110** opposite the conductive layer **120**. For example,